WO 2005/049763 PCT/JP2004/017431

silicon compound, and carbon in an atmosphere of nitriding gas.

5

10

20

25

6. The method for producing a nitridosilicate-based compound according to any one of claims 1, 3, and 5, wherein the silicon compound is at least one compound selected from silicon nitride and silicon diimide.

- 7. The method for producing a nitridosilicate-based compound according to any one of claims 1, 3, and 5, wherein the nitriding gas is at least one gas selected from nitrogen gas and ammonia gas.
- 8. The method for producing a nitridosilicate-based compound according to any one of claims 1, 3, and 5, wherein the reaction is performed by heating.
- 9. The method for producing a nitridosilicate-based compound according toany one of claims 1, 3, and 5, wherein the carbon is solid-state carbon.
 - 10. A method for producing a nitridosilicate-based compound according to any one of claims 1 and 5, wherein a nitridosilicate-based compound is produced in which the number of atoms of oxygen is smaller than that of alkaline-earth metal per mol of nitridosilicate-based compound.
 - 11. The method for producing a nitridosilicate-based compound according to claim 3, wherein a nitridosilicate-based compound is produced in which the number of atoms of oxygen is smaller than the number obtained by multiplying the number of atoms of rare earth metal by 1.5 per mol of a nitridosilicate-based compound.
 - 12. The method for producing a nitridosilicate-based compound according to

WO 2005/049763 PCT/JP2004/017431

any one of claims 1 and 5, wherein a compound represented by a general formula: $M_2Si_5N_8$, where M is at least one element selected from Mg, Ca, Sr, and Ba, is produced.

- 5 13. The method for producing a nitridosilicate-based compound according to any one of claims 1, 3, and 5, wherein the nitridosilicate-based compound is a nitridosilicate-based phosphor.
- 14. The method for producing a nitridosilicate-based compound according to claim 13, wherein the nitridosilicate-based phosphor is represented by a general formula selected from M₂Si₅N₈:Eu²⁺, M₂Si₄AlON₇:Eu²⁺, MSiN₂:Eu²⁺, and M₂Si₅N₈:Ce³⁺, where M is at least one element selected from Mg, Ca, Sr, and Ba.
- 15. The method for producing a nitridosilicate-based compound according to claim 13, wherein the nitriding gas is mixed gas of nitrogen and hydrogen.
 - 16. A nitridosilicate phosphor comprising a nitridosilicate compound represented by a general formula: MSiN₂ as a phosphor base material, and Eu²⁺ ions as a luminescent center,

wherein a main component of the M is Ba.

20

25

17. A light-emitting apparatus using, as a light-emitting source, a nitridosilicate phosphor comprising a nitridosilicate compound represented by a general formula: MSiN₂ as a phosphor base material, and Eu²⁺ ions as a luminescent center,

wherein a main component of the M is Ba.